



THE THIRD THREAT

Vulnerability to Delay, Denial, Manipulation,
and Blackmail on the Part of External Suppliers—
The Dependence Dimension

Does the globalization of the American industrial base carry genuine dangers of foreign dependence? More popularly, computer chips, potato chips—what's the difference?

Viewed from the perspective of Threat II (the loss of national capabilities), the choice between computer chips and potato chips might be surprisingly close. If one takes potato chips to be indicative of a robust agribusiness industry (instead of merely a vacuous product with no redeeming value), most national strategists would consider themselves fortunate to have strong domestic strengths there, as well as in semiconductors.⁵¹

Viewed from the perspective of Threat III (dependence), however, the question becomes what to do when a country does not have indigenous competitive capabilities in both. A Japanese national strategist might well ask, "Electronic products, food products—what's the difference?" and conclude (on the basis of Japan's history) that any possibility of being denied food products (or of being vulnerable to blackmail via a threat of a cut-off of supply) would pose the greater danger to the nation. The determination of which is the more serious threat, denial of food products or denial of electronic products, is an

empirical question that rests on the credibility of facing a hypothetical cut-off, on the time and difficulty of developing alternatives, and on the potential for creating stockpiles. Such considerations are the starting place for dealing with the challenge of dependency.

No matter how successful American efforts are to address Threats I and II, the United States will become more dependent in the future. Even if macroeconomic policies were in long-term balance, and even if (backed by strong investment flows into plants, equipment, education and training) all American workers and firms were operating with maximum efficiency and high innovation, the globalization of the U.S. industrial base would continue. That is, we will continue to rely on foreign providers for a growing proportion of the goods, services, management, and technologies we use. The idea of the United States enjoying technological and productive predominance in every sector is more than a historical anomaly, it is a logical impossibility: no nation can have a comparative advantage in everything.

How far will the process of globalization go? There is no basis on which to predict where a natural stopping place might be as technological prowess spreads more evenly around the world. As a point of reference, we are likely to continue to head in the direction of, say, Germany, where more than 57 percent of all high-tech goods, for example, are produced by foreigners (as compared to 16 percent currently in the United States).

In conventional economic analysis, globalization does not represent a failure; it represents success. To be sure, no nation has ever wanted to be

at the mercy of outsiders for industries vital to national defense, and this has given rise to an agonizing dilemma between autarchy and efficiency. But, in the course of history, autarchy has been reserved for only the narrowest classes of finished weapons systems (ships, artillery) since the autarchic route is not only expensive but leads rapidly to economic and technological (and therefore political) inferiority.⁵² Today, however, there is a much broader array of military, commercial, and dual-use goods, services, and technologies whose provision is spread internationally.

The Trade-Off between Efficiency and Autarchy

How can one identify where there is a genuine threat in this process and where there is not? National strategists cannot avoid wrestling anew with the ancient problem of dependence on foreigners and working through, once again, the trade-offs between autarchy and efficiency.

For the United States, a rich resource base, strong indigenous scientific prowess, and exposed sea lanes of communication have combined to keep the idea of self-sufficiency alive as a touchstone of national policy. Even in today's critical-technology proposals, there is a certain wistfulness for Fortress America, where the United States avoids dependence on outsiders by being self-reliant for every cutting-edge product and process. But high-tech autarchy, like other kinds of autarchy, is increasingly costly, inefficient, and ultimately infeasible as technological prowess spreads around the world.

Providing some comfort in these circumstances, in an era in which there is a vanishing probability of protracted wartime disruption of supply lanes, national strategists are freed to direct their attention to that narrow subcategory of dependence where deliberate denial on the part of the supplier (or the supplier's home government) is a credible possibility.

Here there is an analytic tool that vastly simplifies the task for national strategists: the necessary condition for deliberate denial to be credible is the concentration of global markets. The threat hidden in the globalization of the industrial base springs today not from the *extent* of dependence on outsiders, therefore, but from the *concentration* of dependence on a few foreign suppliers where substitutes are few, the lead time to develop alternatives is long, and stockpiling is not feasible. Only within this much diminished set of circumstances can the commercial suppliers themselves threaten to manipulate the flow of goods, services, or technology to users in the United States, or in the extreme, become channels for blackmail, denial, or other forms of extraterritorial diktat on the part of foreign powers.

This perspective is, in general, greatly liberalizing, as national strategists look to the future. Most dependence on foreign suppliers does not matter and can safely be ignored. But where foreign suppliers are concentrated, it cannot.

The apprehensions caused by the concentration of foreign suppliers is not merely hypothetical. History is full of attempts by governments to influence the sovereign activities of other nations by withholding supplies or issuing extraterritorial directives to the overseas affiliates of domestic firms.⁵³ The United States itself has attempted to exercise

such coercive power—witness the instructions from American authorities to IBM to have its French subsidiary withhold computer technology from France in the 1960s in order to inhibit de Gaulle's development of an independent nuclear deterrent; or, more recently, the Reagan administration's unilateral and retroactive order to the European subsidiaries of Dresser Industries and General Electric to cancel their contracts to supply technology for the Soviet gas pipeline. Other countries have shown a similar propensity to use their international companies as vehicles for external diktat. It is worrisome to contemplate that our country may increasingly be on the receiving end of such extraterritorial mandates.

In the economic sphere, 42 percent of a sample of U.S. firms interviewed by the General Accounting Office in 1991 reported, for example, that Japanese suppliers had rejected their requests to purchase advanced goods, parts, or technologies or had delayed their delivery by more than six months.⁵⁴ Nor is the political dimension of denial absent in the American encounter with industrial globalization. In the future, we may face more experiences like the Kyocera case, in which MITI (under antinuclear pressure from Socialist members of the Japanese Diet) forced Dexel, the American subsidiary of Kyocera, to withhold its advanced ceramic technology from the U.S. Tomahawk missile program. Ironically, with the decline of cold war solidarity, an expanding number of political groups in the legislatures of our allies may enjoy increasing leeway to deny us access to technology or to set conditions for its use in the decades to come.

The threat of (credible) denial or manipulation leads to legitimate national security exceptions to

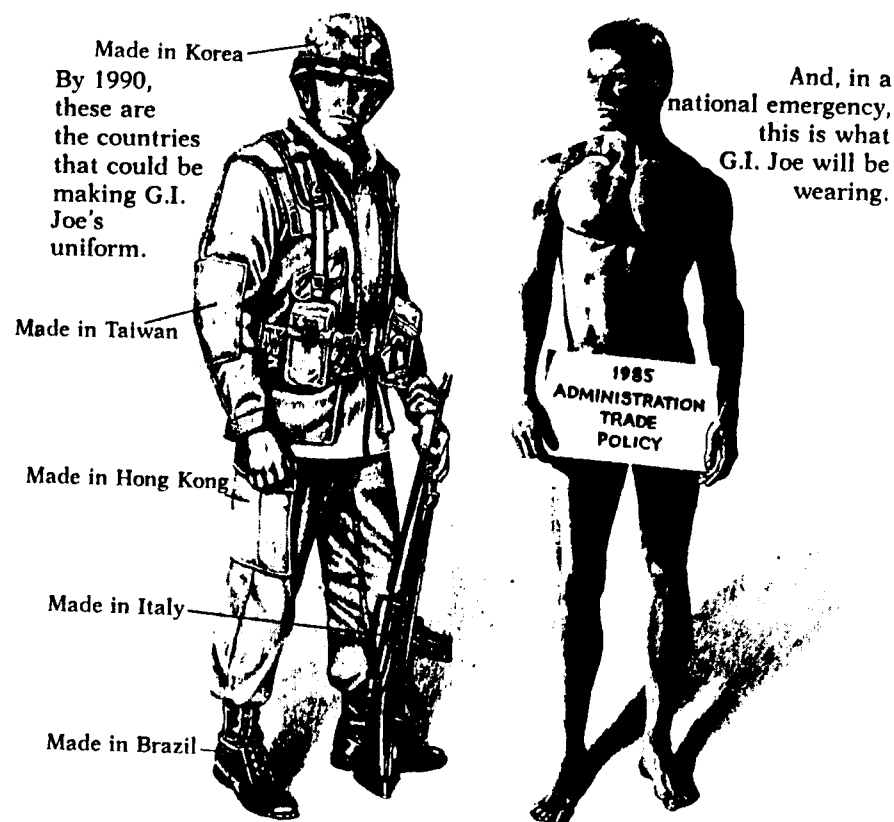
liberal doctrines of free flows of trade and investment. To specify where the exceptions occur, there is a useful empirical finding from antitrust studies that can provide a guideline for policy: if the largest four firms (or four countries) control less than 50 percent of the market, they lack the ability to collude effectively even if they wish to exploit or manipulate recipients. If they control more than 50 percent of the market, they do hold the potential to coordinate denial, delay, blackmail, or manipulation. This "four-four-fifty rule" provides an objective test of whether a genuine threat to national security exists.⁵⁵

National Security Exceptions to Free Trade

In the trade arena, the concentration test would apply equally to all the products of struggling industries that appeal for blanket trade protection on national security grounds⁵⁶—to footwear (since soldiers do require boots to march), as well as to machine tools, ball bearings, and steel.

To illustrate the difference between dependence that is genuinely worrisome and dependence that is not, one might consider a political advertisement sponsored by the Fiber, Fabric, and Apparel Coalition.

The coalition was trying to gain trade protection for domestic makers of boots, uniforms, and helmets to avoid U.S. dependence on outsiders for these crucial items. What is analytically askew is not that boots, uniforms, and helmets are unimportant, but rather that their provision is so dispersed that sustained, deliberate denial on the part of the



Source: *Washington Post*, November 21, 1985, page A23.

FIGURE 1 ADVERTISEMENT FROM THE FIBER, FABRIC, AND APPAREL COALITION FOR TRADE

suppliers is not credible (the purchaser would simply shift orders to alternative sources). To be fair, the advertisement was first inaugurated in the mid-1980s when submarine attacks on convoys carrying boots from Brazil might have been conceivable, but even then stockpiling, rather than trade protection, would have been the more efficient remedy.

Following the logic of concentration being the necessary condition for denial, no longer would it make sense to protect domestic producers of items whose suppliers are widely dispersed internationally, no matter how critical the provision of supplies was claimed to be, even if the last domestic producer were threatened with extinction. Conversely, there would be a legitimate case to grant a national security tariff (or a subsidy, which is more efficient, if the fiscal and political system would support it) to domestic producers of crucial products whose provision from abroad is in the hands of a few suppliers.⁵⁷

Turning to other examples of sectors that have frequently appealed for trade protection with an explicit or implied national security rationale, the machine-tool, ball-bearing, and steel industries are not sufficiently concentrated that denial on the part of external suppliers is a credible worry. Trade protection for any one of these entire industries, therefore, is unwarranted on national security grounds. At the same time, however, some narrow segments of the machine-tool industry might qualify—multi-axis cutters and grinders, and non-metallic shapers, for example, appear to be particularly concentrated; so too might portions of the ball-bearing industry, or some specialty steels. As in all trade cases, how much of a given industry might have to be covered

for the target subsectors to remain viable is an empirical question: some concentrated subsectors might not be able to survive with mere niche production, in which case extensive protection would be appropriate.⁵⁸ In general, however, the presence of large flows of intra-industry trade demonstrates that a nation seldom has to host an entire industry for many segments to enjoy the economies of scale needed to compete in international markets.⁵⁹

Overall, this approach to trade policy would place strict limitations on future appeals for trade protection. The formula is: no global concentration, no possibility of foreign "control," no threat to American national interests.

Gone would be comprehensive protection of entire industries, which saddles all users with higher input costs. Gone would be grossly distortionary protectionist measures (quantitative restrictions). Gone, too, would be efforts to prop up domestic producers in ways that reward foreign producers with trade rents (VRAs and VERs). Most important, if adopted as the standard around the globe, this approach would subject trade actions taken in the name of national defense to the discipline of an objective test, instead of to the intuitive sentiment of the would-be protector as prevails today.

Finally, this carefully targeted tariff protection (or subsidy) would not only promise enhanced viability to the current owners of the crucial concentrated facilities but also stimulate the interest of potentially superior domestic acquirers. It would simultaneously attract foreign companies to set up local operations. These are features of considerable importance as one turns to the consideration of foreign investment.

*National Security Treatment of Foreign
Acquisitions: Who-Is-Us? Revised*

The optic of global concentration helps the national strategist sort through the issue of what the Defense Science Board has labeled the "penetration" of the domestic industrial base via foreign direct investment, including through the acquisition (friendly or hostile) of American firms. Today the oversight procedures of the U.S. government are opaque and confused: it is often more difficult for an overseas company to buy an American product containing sensitive technology than it is to purchase the entire company that makes the product.

As a general proposition, of course, foreign direct investment provides inputs of technology, management, and capital to the U.S. economy that help it become more productive. National strategists will want to support inward investment by foreigners for the same reasons that we encourage Europeans, or Canadians, or Mexicans, or Japanese to do the same. To be sure, American strategists will want to know whether direct investment by foreigners behaves significantly different from domestic firms with regard to skill-intensity of the jobs, amount of R&D, procurement practices, labor relations, and the like. One would want to be satisfied (for reasons associated with Threat II) that foreign investors did not keep the best jobs and research activities solely for home-country operations or, worse, take over indigenous companies and restructure operations so as to siphon off the most prized functions for headquarters. The initial indications are that this does not occur, that there are no major, systematic differences in behavior between local firms and affiliates

of foreign companies when type of industry is held constant.⁶⁰ But is this type of surveillance enough?

To the extent that foreign investors conduct their operations like domestic companies but generate superior performance, observers such as Robert Reich question the importance of firm nationality, as measured by ownership of the stock or the citizenship of the board of directors or location of parent headquarters. All that need concern national strategists, according to this line of analysis, is whether any given corporation can improve the effectiveness of the workforce and strengthen the competitiveness of the local economy. "So who is us?" asks Reich. "The answer is, the American work force, the American people, but not particularly the American corporation."⁶¹ Within the horizon of concerns of Threat II (ensuring domestic capabilities), this stance would lead to unreserved welcome for any and all foreign contestants in the domestic market.

But, again, the issue of concentration arises: without examining with some care the instances in which there are a shrinking number of suppliers, such a stance might be too nonchalant. Here we could find ourselves so dependent on goods, services, and technologies controlled by foreign-owned companies in the United States that our country would have to follow conditions laid down by outsiders to use their inputs or, in the extreme, to ask permission to pursue policies needed to advance our own national interests around the world.

The area of most concern is foreign investment via acquisition (46 percent of the cases and 79 percent of the value, according to the most recently available data), where, in the late 1980s, there were more than 400 takeovers in the microelectronics,

aerospace, telecommunications, and advanced materials sectors alone.⁶² A case in point involved the proposed takeover of a maker of advanced lithography equipment to imprint circuit patterns on silicon wafers in the semiconductor industry. The producers of this equipment ("steppers") are so few in number that they possess quasi-monopoly power. The acquisition of an American stepper manufacturer by a foreign company (as Nikon proposed with Perkin Elmer) would open the door to a kind of dependence for the United States that could be preyed upon by the parent corporation or the parent corporation's government.⁶³

For the array of civilian and defense-related technologies in which suppliers might be similarly concentrated, the conditions imposed by outsiders could range from discrimination by use (no nuclear applications), to discrimination by destination (no sales to Israel), to discrimination with regard to commercial activity (permission required to re-export), to discrimination with regard to discrimination (no denial of sales to Iran)—all potentially subject to unilateral retroactive determination (requiring the United States to face what the Europeans experienced with the Soviet gas pipeline case in reverse).

As in the case of trade, the challenge is to devise a workable policy toward acquisitions of U.S. firms by outsiders when global markets are dominated by tight foreign monopolies or oligopolies. Once again, the use of a concentration measure offers a simple and effective method to strengthen CFIUS (Committee on Foreign Investment in the United States) procedures through which the U.S. government monitors foreign takeovers: if a foreign acquisition is

proposed in an industry where concentration is higher than four companies or four countries supplying 50 percent of the global market, the U.S. government should impose performance requirements on the acquiring firm to ensure the retention of operations in the United States; if a foreign acquisition is proposed in an industry where concentration is lower than four companies or four countries supplying 50 percent of the global market, the U.S. government should approve the acquisition without conditions.

Strengthening the CFIUS screening mechanism with a concentration test has the advantage of avoiding the need to reopen the debate over industrial policy. The approach outlined here does not depend upon the dubious ability of government bureaucrats to pick winners and losers better than the market. Instead, it is based on established principles of aversion to monopolistic or oligopolistic power that have always guided the American preference for free markets.

Why not follow the Fortress America impulse, and simply block foreign acquisitions in globally concentrated industries altogether?

All else being equal, if there is a "national solution" available to sustain the target firm as a world-class competitor, either by channeling additional resources to the company (via a tariff or a subsidy) or by having other domestic corporations acquire the firm, the threat of external manipulation may be obviated by blocking the foreign purchase. If the foreign acquirer possesses superior technology or product expertise, however, the pursuit of a national solution via tariff, subsidy, and/or domestic buy-out may simply prop up a second-rate local producer

while leaving the potentially superior foreign supplier in the globally concentrated industry offshore. The performance requirement route, in contrast, actively induces foreign firms in sensitive concentrated industries to carry out research and production within American jurisdiction to mitigate the threat of delay, denial, or manipulation from offshore.⁶⁴

As technological capabilities spread more widely around the globe, the number of cases in which a competitive national solution can be found will inevitably shrink. On balance, for concentrated civilian and dual-use products and technologies, perhaps the benefit of the doubt should be given to allowing the acquisition to proceed with the performance requirements in place, and the burden of proof that a "national solution" would be superior should be laid on those who would oppose the acquisition.

The Most Difficult Case: Acquisition of Defense Companies by Foreign Allies

The proposed acquisition of a domestic defense company by a foreign corporation adds another dimension to the dilemmas noted above. The acquisition of a defense company is different from the acquisition of a critical civilian or dual-use supplier in that it requires some special precautions to protect against disclosure of classified information. These special precautions include voting trusts, proxy arrangements, and special security agreements whose objective is to isolate the foreign owners from the operations of the U.S. affiliate sufficient to ensure

against unauthorized access to sensitive, compartmented, or top secret information and technologies. Under such arrangements, the foreign owner distances itself from direct contact with information that must be handled by cleared U.S. citizens.

As we can see from the preceding analysis, however, a preoccupation with protection against disclosure of classified information is too narrow. It leaves open the question of maintaining control over the disposition of the subsidiary's output if there is a conflict of national directives from home and host governments.

What is needed is a broader methodology for CFIUS review procedures that will apply equally to the proposed acquisition of defense contractors, as well as to the proposed acquisition of civilian firms with critical technologies. The following decision chain sketches out a single sequence to apply to both:

First, once again, strategists must consider the issue of concentration, or how wide a range of comparable products or technological substitutes exist. Here, one can imagine instances where there are many defense suppliers of equipment, electronics, (even) weapons, or contrary instances where there are few equivalent goods or services.

Second, in cases where the range of substitutes is narrow, national strategists must appraise the likelihood that the home government of the prospective parent corporation might impose directives on the company which conflict with the interests of the American host (in the extreme, becoming antagonistic or hostile to the United States).

Third, as the decision chain in Figure 2 illustrates, in cases where the range of substitutes is narrow and the likelihood of conflicting sovereign directives is significant, strategists must consider the question of what unique strengths and resources the potential acquirer brings to the domestic firm.

Fourth, the most subtle judgment of strategists occurs when the foreign acquirer has great strengths to offer and the alternative (were the foreign acquisition to be blocked) is inferior performance, competitive decline, and (ultimately) bankruptcy for the target firm.

Once again, the alternatives for the national strategist are to permit the foreign acquisition to proceed while attempting to impose performance requirements to maximize U.S. governmental clout over the subsidiary in the case of conflicting sovereign directives, or to attempt to arrange a "national solution" to rescue and revitalize the target company (via trade protection, preferred procurement, subsidy, R&D grants, or acquisition by national companies).

In weighing these alternatives, it is important to point out that placing prominent American citizens on the board of directors of the foreign-acquired subsidiary is a misleading, even dangerous, nonsolution to the problem of conflicting sovereign directives. Suppose, for example, the home government of the parent company disagrees with the U.S. government on the distribution of sales of output among countries, the extent of sales to individual countries, the timing of sales to individual countries, and/or the denial of sales to particular countries. In any instance in which the home

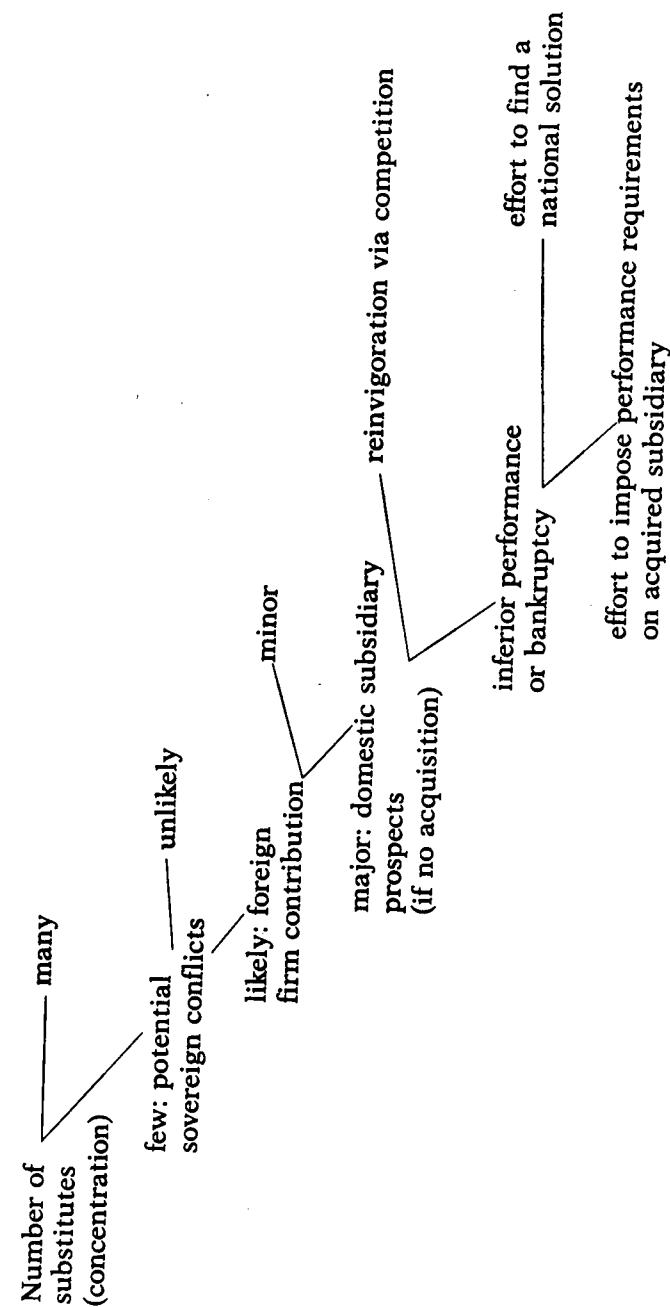


FIGURE 2. NATIONAL STRATEGY DECISION CHAIN FOR FOREIGN ACQUISITION OF DOMESTIC DEFENSE COMPANIES

government of the parent company proposes a greater number or faster pace of sales than the U.S. government, the American board members would have a fiduciary responsibility to choose the former over the latter, rendering them what Graham and Krugman have called a "fifth column" in the American midst.⁶⁵

Within the framework illustrated above, some cases will turn out to be easier for national strategists to dissect than others. In the controversial proposed acquisition of the LTV missile business by Thomson-CSF of France, for example, the principal product lines involved (the MLRS multiple rocket launcher, the ATACM longer range rocket launcher, the ERINT anti-tactical missile interceptor, and the LOSAT anti-tank missile system) have few or no comparable substitutes. The potential for sovereign conflict over the size, distribution, timing, and/or denial of sales in various regions between France and the United States is, on the basis of the historical record, substantial, and it is exacerbated by the French government's 58 percent ownership stake in Thomson-CSF. (Thomson sales to Libya and Iraq have provoked particular controversy, in part because a Thomson-built Crotale missile shot down the one U.S. plane lost in the 1986 bombing raid on Tripoli, and Thomson radar was used to provide Iraq with advance warning in the gulf war.)⁶⁶ As for the contribution of the foreign acquirer, it is the LTV division that possesses the technological strengths, whereas Thomson-CSF, perhaps subsidized by the French government, provides mostly capital (Thomson-CSF does supply the seeker trans-

ceiver hardware for several of the systems). While the LTV company has undergone bankruptcy proceedings due to unfunded pension liabilities in its steel operations, there is a readily available "national solution" available in the form of (lower unsubsidized) counter bids for the company from various U.S. firms. Under these circumstances, U.S. interests would be better served by following the "national solution" alternative than by permitting the Thomson-CSF acquisition to proceed with performance requirements attached.⁶⁷

Other cases will be much less clear-cut. Some defense product lines may contain a greater number of close substitute systems. Some home governments of would-be parent corporations might have a record of closer congruence with U.S. foreign policy goals. The foreign purchasers themselves may come bearing superior technological and production skills. Moreover, as defense industries around the world shrink and rationalize operations in the face of declining military expenditures, the appeal of maintaining economies of scale via mergers across borders will grow. Finally, one should not forget that the closer integration and harmonization of defense contracting across the Atlantic and the Pacific has long been a goal of American strategists.

Here, in contrast to civilian and dual-use acquisition cases, the search for a national solution in the "close call" defense company cases probably makes good sense, with the burden of proof that the foreign acquisition better serves national interests on the shoulders of the would-be acquirer.

Dependency and the "Golden Rule" Among Industrial Rivals

With regard to both trade and investment, the use of a concentration test to separate cases of foreign dependency that are genuinely worrisome from a national security point of view from those that are not, despite its logical consistency, provides a new challenge to American strategists: do our resulting trade and investment policies conform to the Golden Rule standard of international policymaking: namely, can we live comfortably with seeing our own policy approach being adopted by other nations as a guide to defending their own interests?⁶⁸

In the case of foreign acquisitions, the answer is surely affirmative. The use of an objective concentration measure as a basis for rejecting or modifying proposed takeovers would be a great improvement over the vague and subjective national security justifications currently brandished in Europe and Asia. The legitimization of performance requirements as a tool of national policy around the world is not a first-best outcome, but the circumstances in which they would be permitted are narrowly and empirically defined.

In the case of trade protection in globally concentrated industries when local companies might not be able to survive on their own (or, in the case of a subsidy that replaces trade protection), the logic is no less compelling, but American readiness to accept the implications may be more problematic. American national strategists have shown a ready willingness to protect key sectors (like semiconductors) to avoid being at the mercy of foreigners. They

have been equally willing to subsidize a domestic capability to generate certain crucial new-generation products (Sematech). In the future, if we were to face the prospect of having foreigners dominate the provision of, say, the next generation of semiconductors, a U.S. response that combined protection and subsidization, justified on the basis of the concentration logic introduced above, would doubtless carry great appeal.⁶⁹ But, to be consistent, we must be prepared to accept the same kind of public policies on the part of others, to pick a random example, finding others undertaking equally extraordinary measures in aerospace (Airbus). In commercial aircraft, absent public support like that given by the European sponsors of Airbus, a worldwide monopoly by Boeing (or duopoly, including a more healthy McDonnell Douglas if competition from Airbus were eliminated) is not inconceivable.⁷⁰

In short, movement toward a rational strategy to manage the specter of foreign dependency may require the United States to abandon its hypocritical insistence that others simply let markets work when the outcome confronts them with risks we would go to great lengths to avoid ourselves.

Critical Technology Development

The desire to avoid leaving the nation's fate in the hands of external monopolists also inspires a second look at the idea of creating a civilian equivalent of DARPA (along with other public commercial technology-targeting programs).

As noted above, a strengthened R&D tax credit could accomplish most of the objectives expected of

a civilian DARPA minus the drawbacks inherent in an industrial policy to which the latter would inevitably fall heir. But if we accept the argument advanced in the discussion of foreign investment that we should entice foreign firms to the United States to provide some clout over them, we find a novel rationale for creating a public R&D funding agency: we could use it as a magnet to attract foreign firms that are ahead of their U.S. counterparts to conduct R&D and carry out production on American soil. This targeting agency would invite bids from companies or groups of companies for research and development in areas drawn from a master "critical technologies" list. The list could be prepared by experts and the bids reviewed by independent anonymous referees, shielded from pork-barrel political pressures. Whether or not this kind of effort is a more efficient way of reinforcing the technology development efforts of domestic firms than the R&D tax credit, the advantage of the civilian DARPA initiative would come from inducing foreign, as well as U.S., firms to participate, turning the argument about Who-Is-Us? into the determination to Make-Them-Us!⁷¹

The controversial and somewhat counterintuitive idea of inviting a company like (the European) Asea Brown Boveri to apply for U.S. public funding for superconductivity research (or allowing Sony to partake of DARPA grants for electro-optical research, or Siemens to join Sematech to participate in Sematech's development of semiconductor technology) would have to be carefully explained. But, an outcome in which foreign technology leaders are integrated into the U.S. industrial base—where American authorities can exercise some leverage

over them (if need be)—is, from the point of view of the national strategist, far superior to the alternative of having them develop in concentrated structures offshore.

The requirement that all recipients of funding from a civilian DARPA (whether U.S. or foreign firms) engage in research, development, and manufacturing within the United States would not be an ideal outcome in terms of economic efficiency. But, as with foreign acquisitions in globally concentrated industries, performance requirements of this sort are quite likely to be a second-best stance that public authorities around the world will insist upon for the expenditure of their tax dollars. In this context, a civilian DARPA initiative could be used to obtain reciprocal access for American companies to the publicly funded technology programs of other nations.⁷² The end result might be to engender some duplication of facilities around the globe as high-tech companies established R&D facilities in each of the principal industrial markets, but this is a trend that is occurring anyway.

Transnational Corporate Alliances

We cannot complete the analysis of the threat from foreign monopolists without examining one of the most delicate areas of all, the growing number of cross-border alliances among cutting-edge firms. Might the corporate agreements among high-tech companies of diverse national origins, including American origin, serve the private interests of the firms themselves but not the broader U.S. interest?

There is a fear, expressed most recently in the controversies surrounding the McDonnell Douglas–Taiwan Aerospace arrangement, that the foreign partners are taking advantage of the U.S. government's liberal attitude toward corporate alliances to exploit U.S. technological assets with the goal of pursuing a far more threatening strategy of their own in the future.⁷³ Instead of acting as partners, these firms could be predators, for whom cross-border relationships are simply one step in a deliberate effort to supplant and ruin their erstwhile U.S. associates. Furthermore, some observers worry that although the American prime contractors in such alliances might maintain their own market positions well enough, they might do so at the price of selling out the lesser U.S. subcontractors by offering coproduction and offset agreements to secure their larger transborder deals.

In general, the history of transborder alliances among high-tech firms is reassuring. As technological capabilities spread around the globe, American companies are treating external R&D as a resource to be tapped. The reverse transfer of technology from overseas to U.S.-based parent companies has been growing substantially in volume and importance over the past two decades, according to the National Science Foundation.⁷⁴ Transborder alliances are one embodiment of the process of obtaining access to foreign technology. Equally important, however, such alliances serve to line up supporters and neutralize opposition precisely in those industries where strategic trade theory predicts there will be strong pressures for preferential national procurement. The aerospace industry has been a pi-

oneer in this tactic. From time to time, Boeing and Airbus have matched each other in sourcing as much as 50 percent of the content of their products in target markets. As the president of Boeing explains, "If we were to bleed off all of the aerospace production, we'd get a backlash that would cause more trouble than sharing to a degree."⁷⁵

With regard to the concern that corporate planners may be insufficiently vigilant in protecting themselves from the ambitions of their foreign partners, the evidence from the best researched sector, aerospace, suggests that American companies, like other firms, are developing sophisticated techniques to prevent their partners from becoming full-blown rivals.⁷⁶ They circumscribe access to design and testing procedures for a given product, and maintain control over systems integration, rendering it difficult for subcontractors to use knowledge gained from one project to leapfrog the existing prime contractor and strike out on their own to develop the next generation of products.

In fact, an argument can be made that joint ventures (including joint ventures across borders) strengthen the lead firm's position for the next round of competition by enabling it to use current technology as a "cash cow" for the development of the subsequent generation. Moreover, transnational alliances help both firms and governments to spread risk and avoid "betting the company" or "betting the national champion" on a single production venture. For a broad array of reasons (technological access, market penetration, cash generation, risk reduction), therefore, national strategists would probably conclude that U.S. interests would not be

served by discouraging multinational corporate alliances.

Nonetheless, the concern about the fate of sub-tier suppliers remains. Private corporate arrangements that are of benefit to American primes may come at the expense of coproduction or offset agreements that leave foreigners in a position of market domination in the subtiers. Suppose, for example, that an aerospace alliance hinges on the demand by prospective Asian partners that most of the avionics be developed and produced in Asia (a demand perhaps not unreasonable in terms of comparative costs), or that a computer alliance involving joint development of 256-megabit chips contains a stipulation that the output be fabricated in Germany and Japan. It is not at all inconceivable that the United States could find key subsectors of its industrial base being reconstituted in concentrated form abroad as a result of such private bargains.

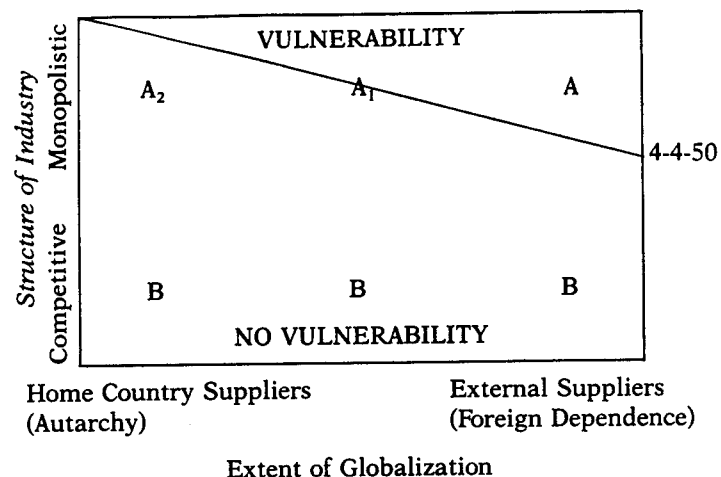
In these circumstances, the national strategist might want to require corporations contemplating major transborder production alliances to file an "economic security impact statement" confirming that the proposed agreements did not leave the United States at the mercy of monopolistic external suppliers. The drawback to such a requirement would be the insertion of the U.S. government into the midst of private deliberations, with intrusive and possibly chilling effects. On the other hand, if the "economic security impact statement" were carefully limited to the implications of the arrangement for the structure of subcontracting industries, the result should not be far different from antitrust considerations already present in management decision-making.

Managing Dependency in an Era of Industrial Globalization

The globalization of the industrial base in all major economies is certain to increase over the coming decades. The overall impact of this spread of products, inputs, services, technologies, and capital will be greatly beneficial. The cases that are genuinely worrisome from a national security point of view will be few, exceptional, and limited to critical industries (in which the cost to society of forgoing their output is high and the task of shifting to substitutes difficult and time-consuming) whose international structure remains concentrated.

Figure 3 summarizes the arguments above regarding trade, foreign acquisitions, public technology-targeting programs, and supervisory provisions in transborder corporate alliances. All the major industrial powers will benefit by redeploying the energy and resources traditionally devoted to cases in the B category to deal in a common, parallel way with the far fewer cases in the A category.

Once again, it is important to note the extent to which the severity of U.S. dependence on external monopolistic suppliers rests upon national action or inaction to respond to the threats discussed above. With external trade and investment accounts badly out of alignment, and with weakening and shrinking American capabilities in high-skill, high-value-added, high-tech sectors, the likelihood of finding our autonomy curtailed and our behavior manipulated by external sources will grow. With savings and consumption maintained in more disciplined proportions, and with American capabilities in high-skill,



- A = Exposure to the threat of delay, denial, or manipulation if trade competition in a concentrated global industry is allowed to destroy domestic producers, or if foreign acquisition is rejected and foreign suppliers of superior technology remain offshore, or if transborder corporate alliances shift subtier suppliers in concentrated industries
- A_1 = Added clout to offset threat of delay, denial, or manipulation via performance requirements on foreign acquirers, or public technology grants to induce foreign R&D (and production) on national soil.
- A_2 = A successful "national solution" via revitalizing domestic-owned alternatives to foreign corporations, or via adopting provisions to ensure a portion of subtier contracts in transborder corporate alliances remain at home in concentrated supplier industries.
- B = Absence of national security concerns about the location of suppliers if global industries are widely dispersed by country and company.

FIGURE 3. NATIONAL SECURITY VULNERABILITY
(EXPOSURE TO THREAT OF DELAY, DENIAL MANIPULATION)

high-value-added, high-tech industries strengthened by a solid stream of investment in R&D, plant and equipment, and human resources, there will doubtless still be some critical dependencies for the American economy, but they will much more likely be accompanied by offsetting axes of dependence where foreigners rely upon products and technologies in which the United States predominates.